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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/629,676

07/30/2003

Kenji Sato

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01/12/2005

RADER FISHMAN & GRAUER PLLC  
LION BUILDING  
1233 20TH STREET N.W., SUITE 501  
WASHINGTON, DC 20036

EXAMINER

TANINGCO, MARCUS H

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/629,676	SATO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Marcus H Taningco	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,8,10,11,15,18-22,25,27,29,30 and 34-38 is/are rejected.
- 7) ☒ Claim(s) 2,3,7,9,12-14,16,17,23,24,26,28,31-33, and 39-42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/17/03</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### **Specification**

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### **Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 4-6, 8, 10, 11, 15, 18-22, 25, 27, 29, 30 and 34-37 are rejected under 35**

**U.S.C. 102(b) as being anticipated by Lee et al. (JP 09-009153).**

Re claim 1, Lee et al. teaches a radiation detector (Fig. 1) comprising: a radiation sensitive semiconductor 8 [0036]; a common electrode 9 formed on one surface of said semiconductor 8 for receiving bias voltage [0035]; electrodes 23 and 25 on the other surface of said semiconductor 8 for outputting charges generated within said semiconductor 8 by the incident radiation [0031]; and a light source 22L and a light panels 22F and 22S [0036].

Re claim 4 as applied to claim 1, Lee et al. teaches a semiconductor **8** comprising amorphous selenium [0034].

Re claim 5 as applied to claim 1, Lee et al. teaches a semiconductor **8** comprising CdTe [0034].

Re claims 6 and 10 as applied to claim 1, Lee et al. teaches a light source **22L** and light panels **22F** and **22S** [0036].

Re claims 8 and 11, Lee et al. teaches a light source **22L** and light panels **22F** and **22S** directly emitting radiation, which has the wavelength in the range of 400-800 nanometers [0036].

Re claim 15, Lee et al. teaches a radiation detector (Fig. 1) comprising: a radiation sensitive semiconductor **8** [0036]; a common electrode **9** formed on one surface of said semiconductor **8** for receiving bias voltage [0035]; electrodes **23** and **25** on the other surface of said semiconductor **8** for outputting charges generated within said semiconductor **8** by the incident radiation [0031]; a carrier selective layer between said semiconductor **8** and electrodes **23** and **25** [0032]; and a light source **22L** and a light panels **22F** and **22S** [0036].

Re claims 18 and 20 as applied to claim 15, Lee et al. teaches a semiconductor **8** comprising amorphous selenium [0034].

Re claims 19, 21, and 22 as applied to claim 15, Lee et al. teaches a semiconductor **8** comprising CdTe [0034].

Re claims 25 and 29 as applied to claim 15, Lee et al. teaches a light source **22L** and light panels **22F** and **22S** [0036].

Re claims 27 and 30, Lee et al. teaches a light source **22L** and light panels **22F** and **22S** directly emitting radiation, which has the wavelength in the range of 400-800 nanometers [0036].

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Re claims 34 and 36 as applied to claims 1 and 15, lee et al. teaches a semiconductor formed on a TFT substrate 7 having TFT switches 14n and charge storage capacitors on a transparent substrate [0031].

Re claims 35 and 37, Lee et al. teaches electrodes 23 and 25 transparent to said light [0009].

### **Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al.**

Re claim 38 as applied to claims 1 and 15, Lee et al. discloses the claimed invention except for an on/off switch. It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Lee et al. with an on/off switch since it was known in the art that electronic devices have on/off switches.

### **Allowable Subject Matter**

4. Claims 2-14 and 16-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 2 recites the limitation of a light having a wavelength shorter than a wavelength corresponding to a band gap energy of the semiconductor used.

Claim 3 recites the limitation of light having a wavelength shorter than a wavelength that halves a transmittance of said semiconductor used, and longer than a wavelength corresponding to band gap energy of a semiconductor.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watanabe et al. (US 6,600,157) discloses a semiconductor device, and radiation detection device and radiation detection system having same.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus H Taningco whose telephone number is (571) 272-1848. The examiner can normally be reached on M - F 8:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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MT



DAVID PORTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800